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## (54) OFDM MODULATOR

### (57)Abstract:

**PROBLEM TO BE SOLVED:** To provide an orthogonal frequency division multiplex OFDM system modulator where nonlinear distortion is excellently eliminated from a transmission signal by compensating distortion corresponding to a temporal change in a nonlinear characteristic of a high output amplifier.

**SOLUTION:** The OFDM modulator 100 is provided with an orthogonal demodulation means 40 that demodulates a transmission signal passing through a high output amplifier 62 with a nonlinear characteristic. A demodulation signal outputted from the orthogonal demodulation means 40 and an output of a pre-distortion circuit 21 that provides distortion in advance to the transmission signal are given to a modeling means 50.

The modeling means 50 models the nonlinear characteristic of the high output amplifier 62 based on the received signal and reflects the result of modeling on the pre-distortion circuit 21. That is, the nonlinear characteristic changing every moment is dynamically obtained to excellently eliminate the nonlinear distortion from the transmission signal and pre-distortion in following to it is conducted.

